



Department of Public Works

Department of Public Works
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ST-285: 2018 Street Repairs and Repaving with Pavement Preservation

What is pavement preservation?

Pavement preservation represents a proactive approach to maintaining our streets. It enables Public Works to reduce costly, time consuming rehabilitation and reconstruction projects. With timely preservation we can provide the traveling public with improved safety and mobility, and smoother, longer lasting pavements.



- Right Treatment
- Right Street
- Right Time



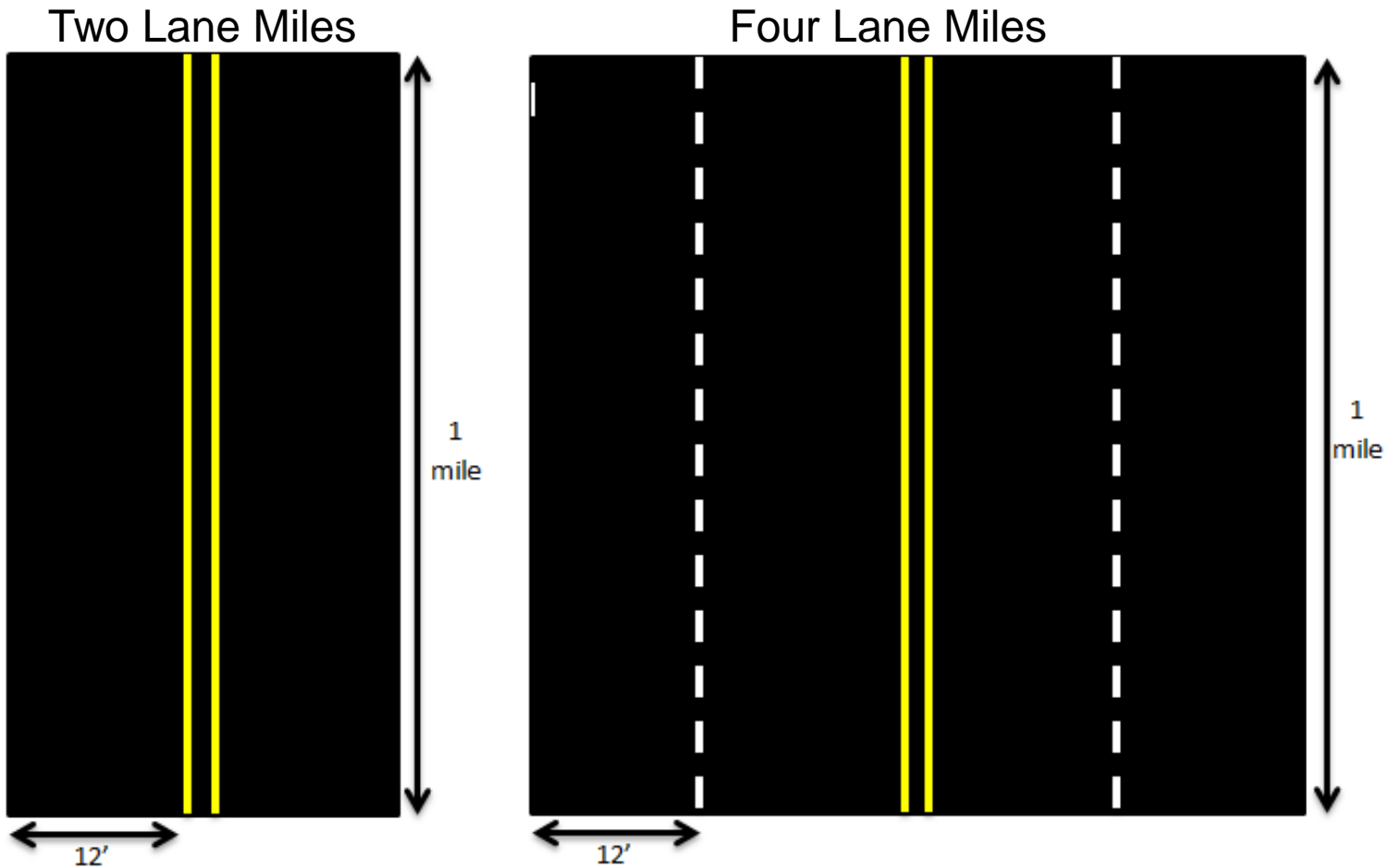
Pavement Preservation Treatment Types



Chip Seal



What is a Lane Mile?



Pavement Condition Index (PCI)

PCI	Work Type	Description	Remaining Life	Rehabilitation Options
86-100	Rejuvenation	Good	15-25 Years	Little or no maintenance required - reclamite, fog seal rejuvenation
71-85	Global Preventative Maintenance	Satisfactory	12-20 Years	Routine maintenance - microsurfacing, slurry seal, crack sealing
51-70	Critical Condition	Fair	10-15 Years	Cape seals, microsurfacing, thin overlays
26-50	Conventional Approach	Poor	7-12 Years	Resurface, mill and resurface
0-25	Reconstruction	Very Poor	5-10 Years	Reconstruction, rebuild, full depth reclamation

Table 1-1 - Industry Standard for PCI Condition Levels

Pavement Condition Index (PCI)



Poor (26-50)



Fair (51-70)

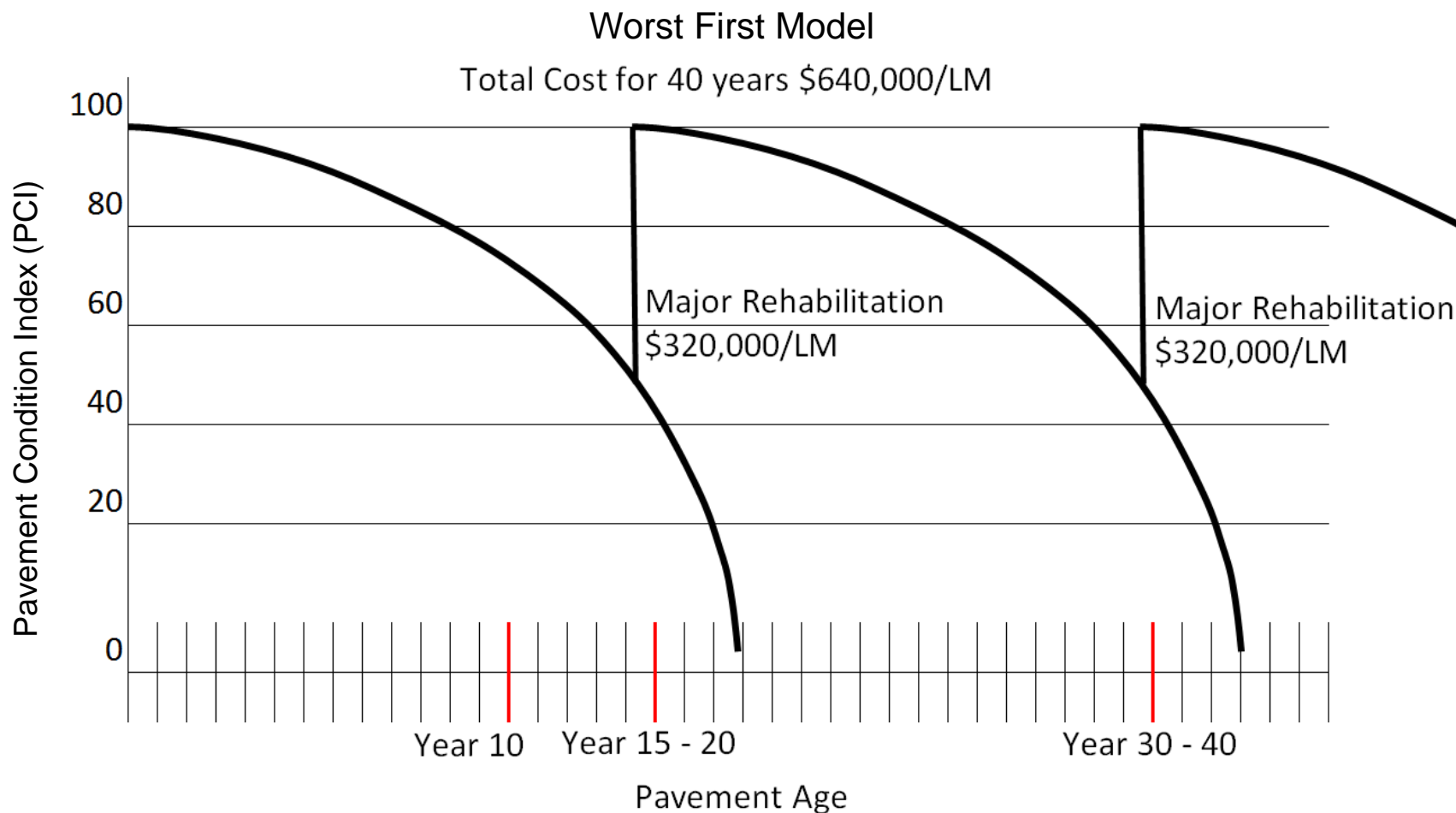


Satisfactory (71-85)



Good (86-100)

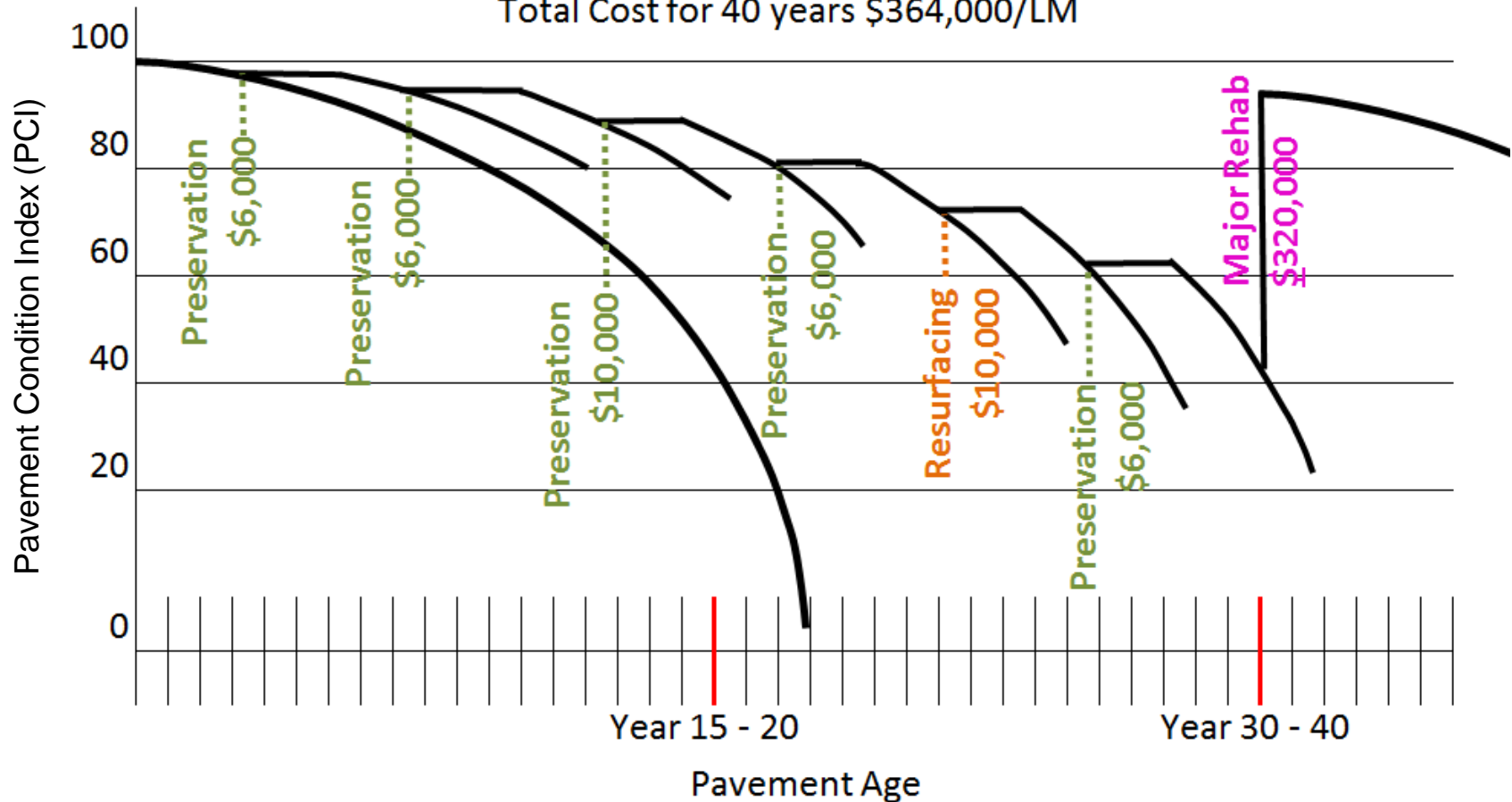
Pavement Deterioration Curve



Pavement Deterioration Curve

Pavement Preservation Model

Total Cost for 40 years \$364,000/LM



Streets with a PCI of 65



- Target average for residential streets

Streets with a PCI of 75



- Target average for major thoroughfares

FY18 Pavement Management Strategy

- Approximately $\frac{1}{2}$ – $\frac{3}{4}$ (3.65 M - 5.47 M) of the budget on resurfacing and $\frac{1}{4}$ (1.83) M on preservation.
- Approximately $\frac{1}{4}$ - $\frac{1}{2}$ (1.83 M - 3.65 M) of the budget on residential streets
- Bring all streets within a subdivision or other geographically defined area to a similar state of maintenance.



Previous Contract Cost History

Contract	Construction Year	Lane Miles	Average Cost/Lane Mile
ST-269	2014	7.1	\$126,631
ST-274	2015	4.2	\$233,431
ST-280	2016	7.2	\$195,353
ST-282	2017	9.9	\$193,294
ST-285	2018	54.0	\$135,124

Overview of ST-285 Budget

FY18 Funding	\$6,600,000.00
Residual Paving Funds	\$427,123.55
Police Headquarters Agreement <ul style="list-style-type: none">• Department of Water Management• Department of General Services	\$269,575.75
\$7,296,699.30	

Overview of ST-285

Breakdown of Street Type	
Thoroughfares	13.8 Lane Miles
Residential	14.2 Lane Miles
Reclamite *	26.0 Lane Miles
TOTAL	54.0 Lane Miles

* Reclamite includes both thoroughfares and residential streets.

Preliminary Project Schedule

City Council Approval	January 16, 2018
Contract Execution	February 16, 2018
Begin Construction	March 5, 2018
Construction Complete	October 2018

Breakdown of Major Spending in Contract ST-285

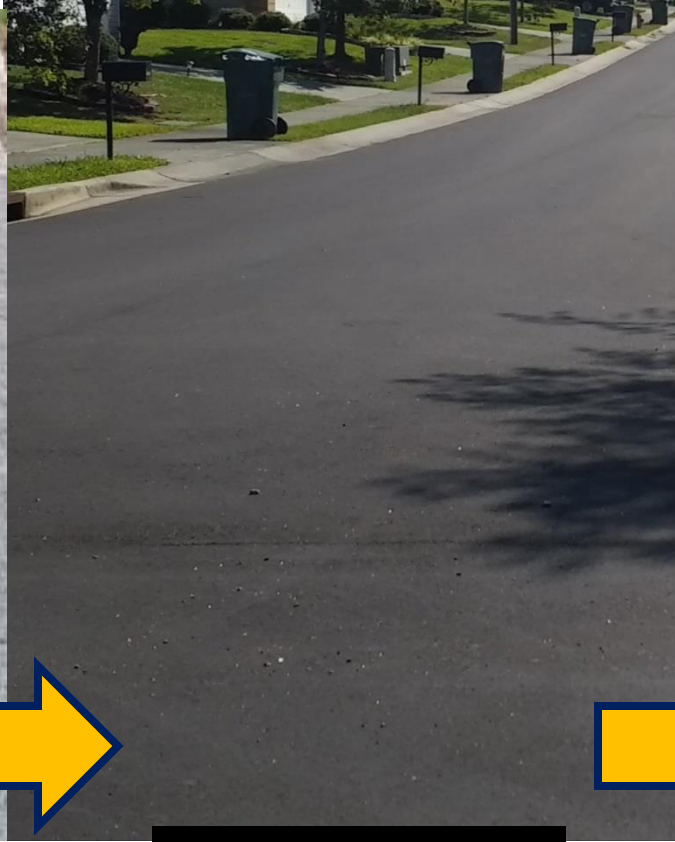
Work Type	Contract Total	Percentage of Contract Cost	Lane Miles
Resurfacing	\$4,083,450	61%	26
Reclamite®	\$143,550	2%	23
Microsurface	\$106,020	2%	3
Cape Seal	\$47,250	1%	2
Curb Ramps	\$272,910	4%	200 ramps
Curb and Gutter Repair	\$92,400	1%	3,000 Feet
Traffic Control	\$349,500	5%	
ST-285 TOTAL COST		\$6,931,389.30	

- These are only the major line items in the contract.
- FY18 Proposed Strategy was to spend approximately $\frac{1}{2}$ - $\frac{3}{4}$ of the budget on resurfacing and $\frac{1}{4}$ on preservation.

Traditional Paving



Before Treatment



Immediately After



After Curing

- Cracking is greater than 3/8"
- Significant damage to the street
- 1"-3" mill and repave with patching and other repairs

Pavement Preservation – Microsurface



- Minor to no cracking
- Will be rough for a few months then smooths out
- Can be used with a crack seal

Pavement Preservation – Cape Seal



- Cracks are less than 3/8"
- No significant damage
- Chip seal with a microsurface over

Pavement Preservation – Reclamite®

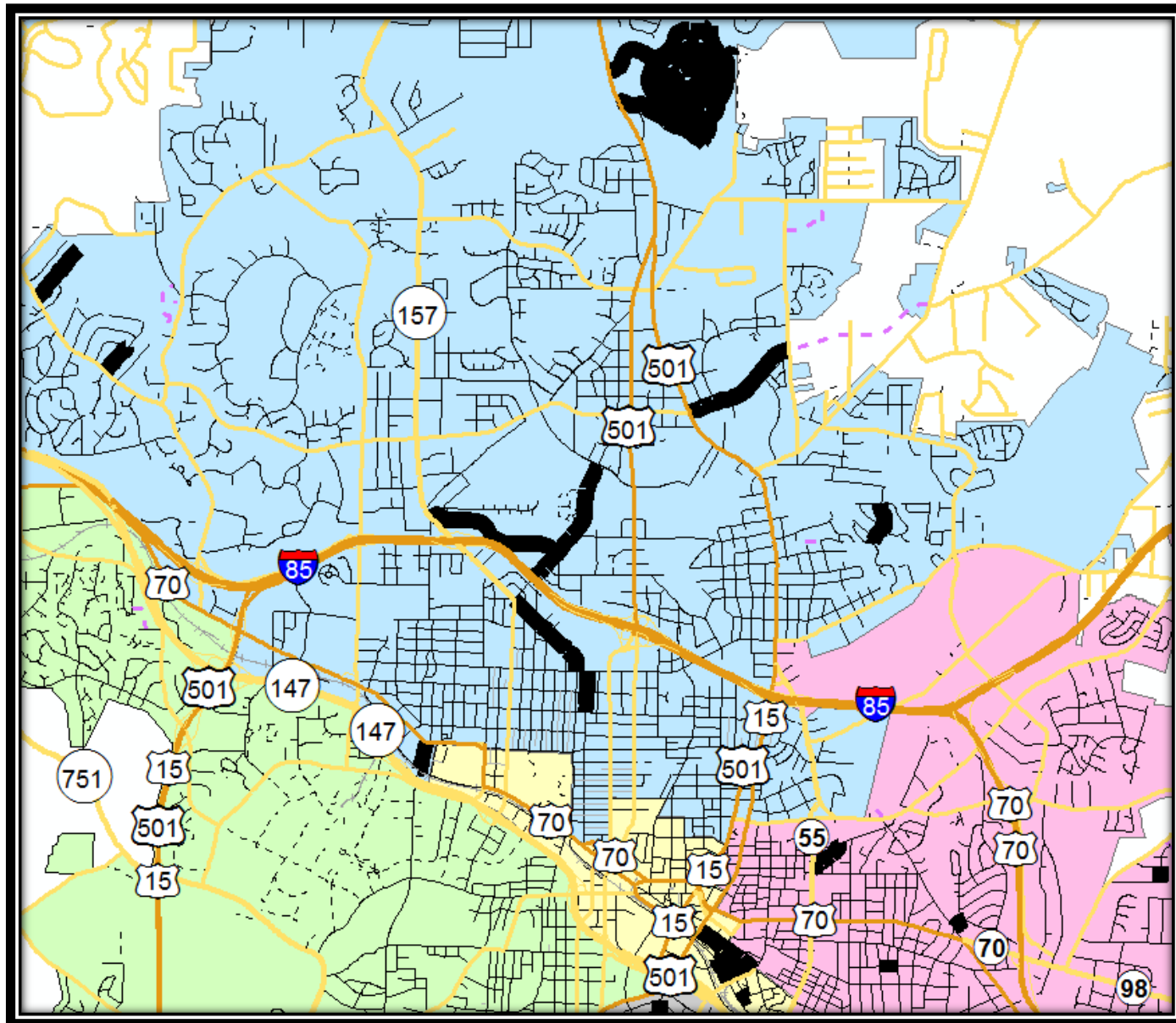


- Recently Repaved Street
- Will not look as if it was treated
- Does not trigger curb ramp repair requirement

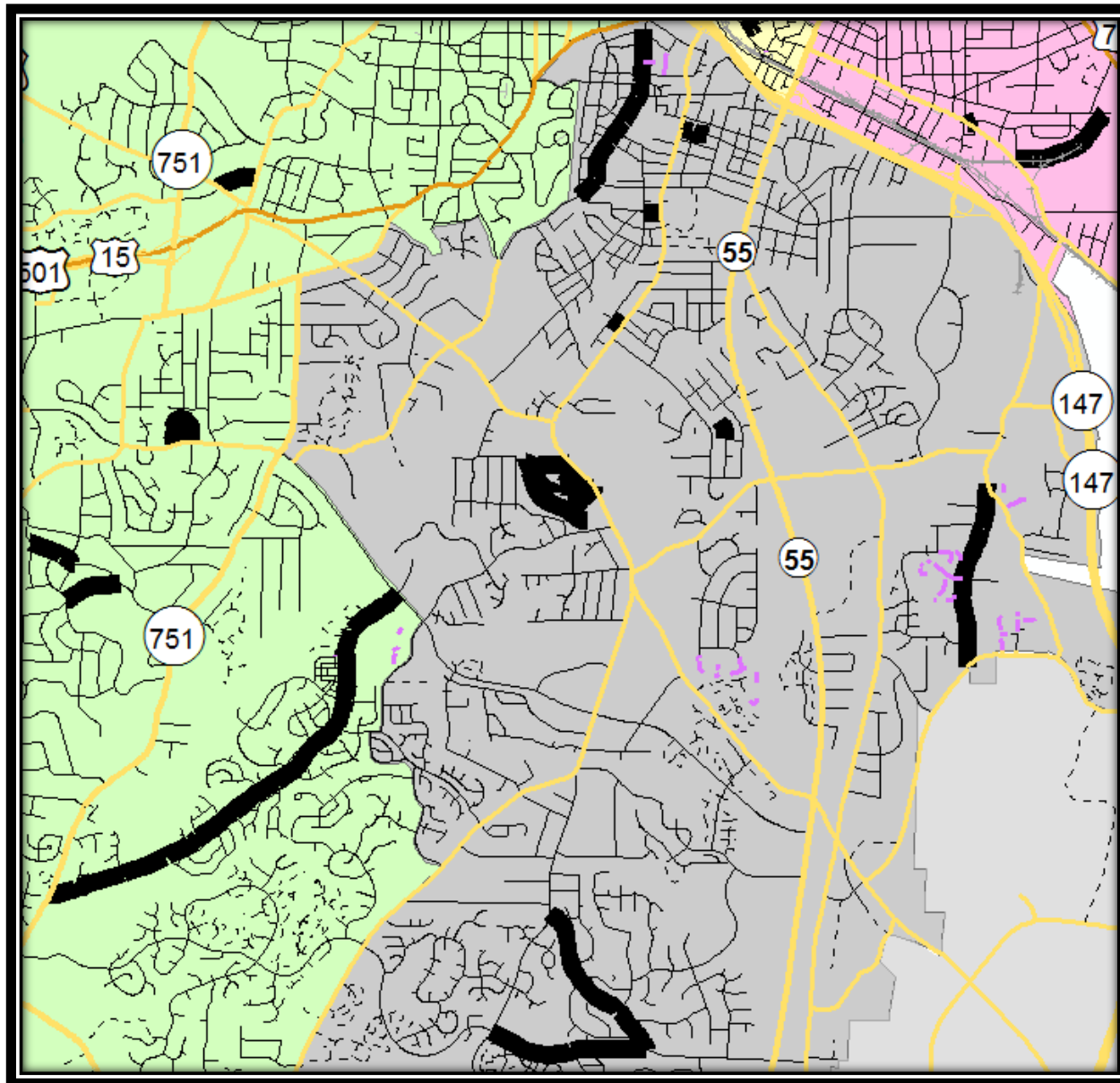
Resident Communication

- 1 week before construction place variable message boards at each entrance to construction areas.
 - Door hangers will be used in location with traffic limited to the residents on that street.
 - Includes Reclamite® locations.
- Permanent construction zone signs (up overnight, Holidays, weekends)
- Monthly project updates to all PAC districts
- Weekly Update to project webpage
- In person meetings with HOAs for any subdivision where pavement preservation will be used prior to construction
- Use of social media through Public Affairs

North Durham PAC Distribution



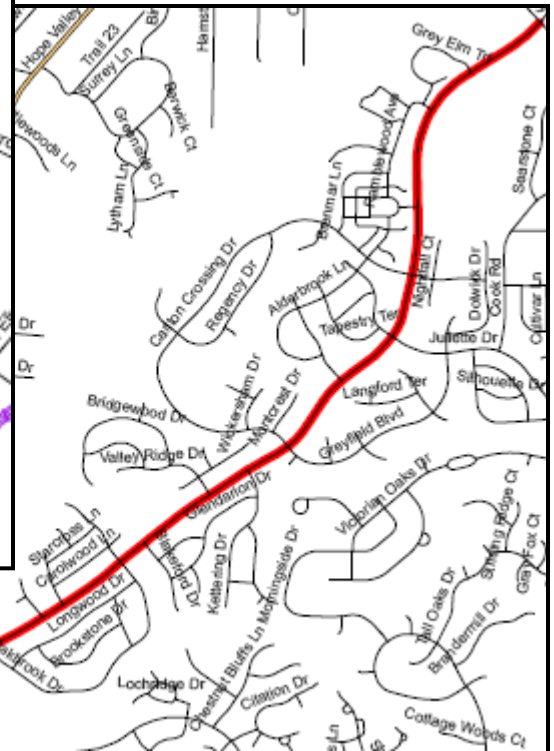
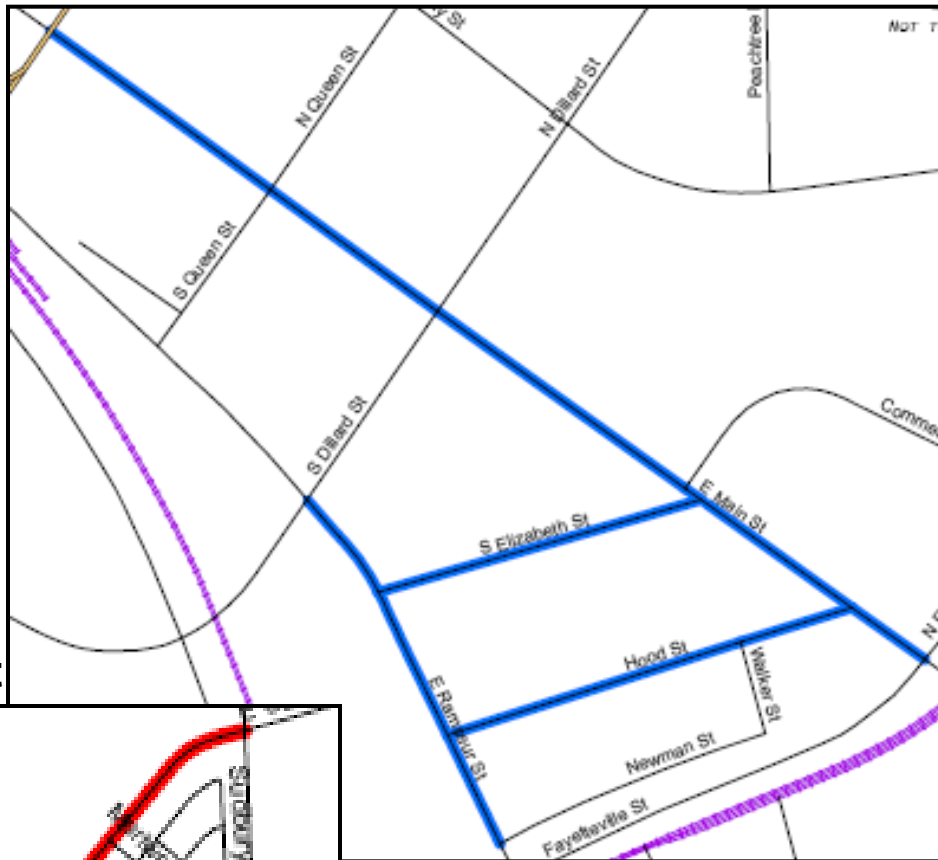
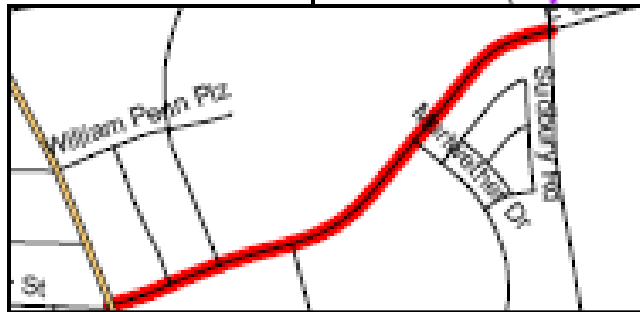
South Durham PAC Distribution



Police Headquarters

S. Roxboro Street

Carver Street

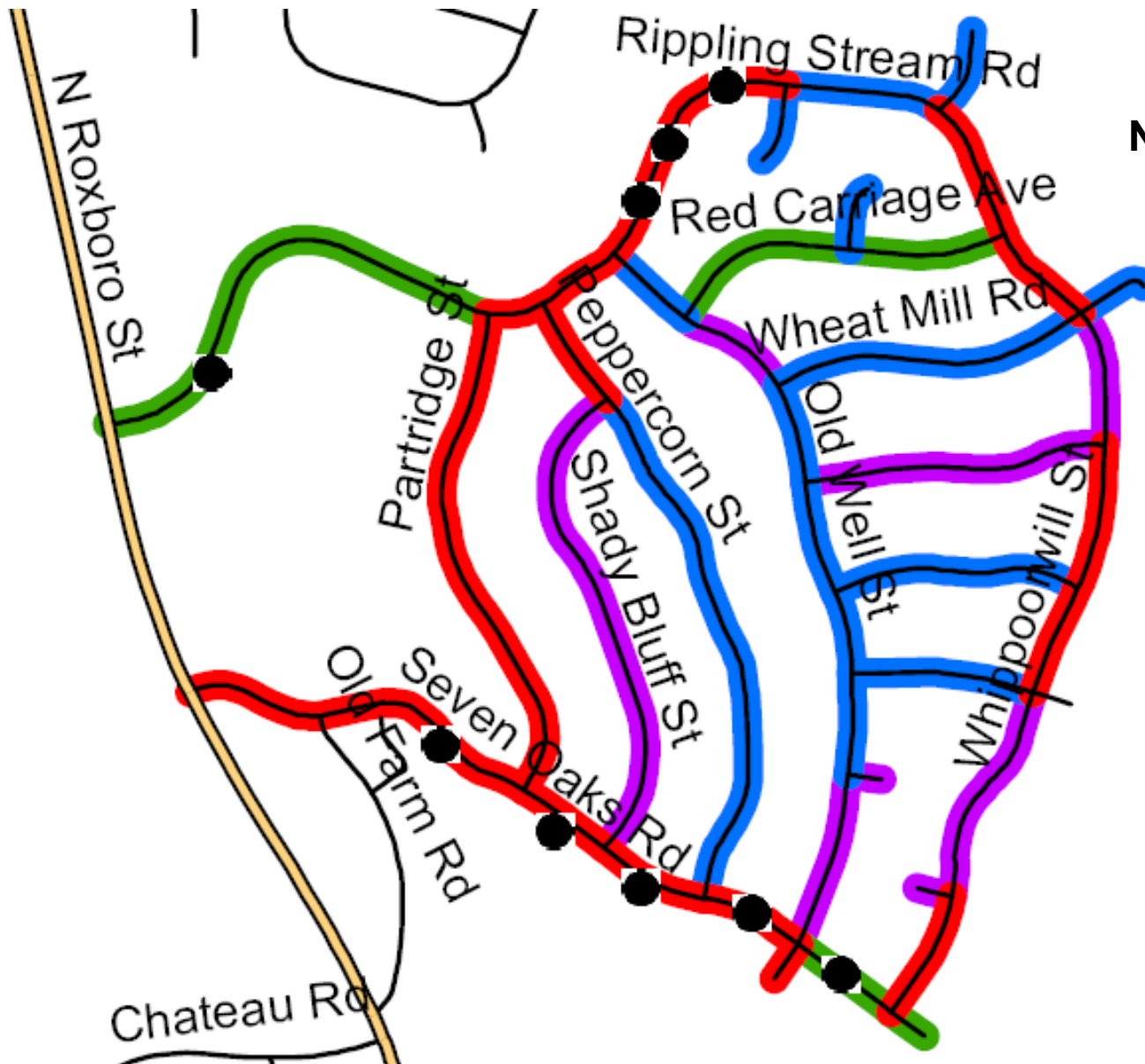


NOT TO SCALE

Legend

— 3" Mill and Repave
 — 1.5" Mill and Repave
 — Cape Seal
 — Microsurface

Old Farm Neighborhood

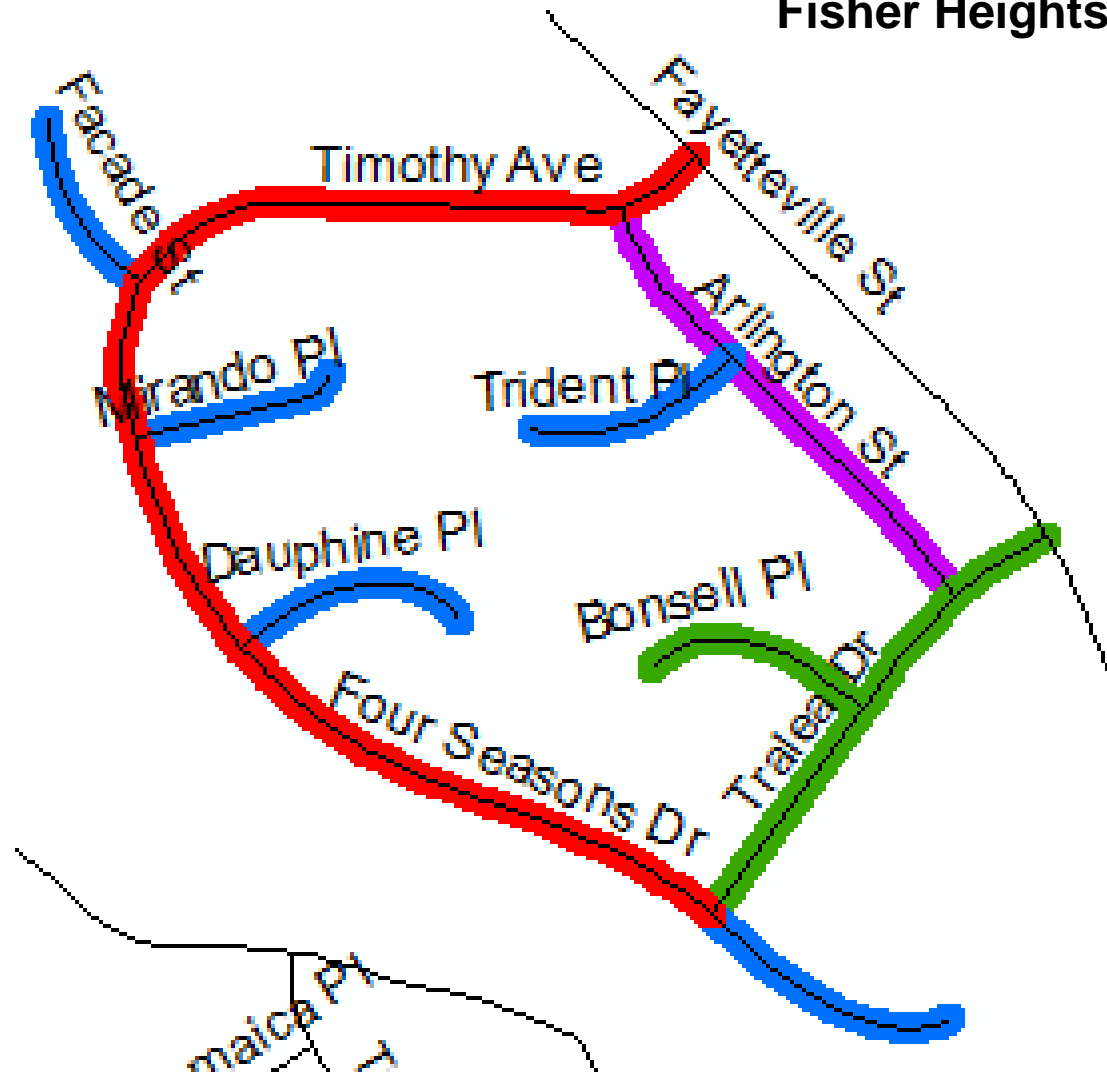


NOT TO SCALE

Legend

— 3" Mill and Repave
 — 1.5" Mill and Repave
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 — Microsurface

Fisher Heights Neighborhood



NOT TO SCALE

Legend

3" Mill and Repave 1.5" Mill and Repave Cape Seal Microsurface

List of Reclamite® Streets

- Raynor Street from Fidelity Drive to N. Miami Boulevard
- Southgate Street from N. Guthrie Avenue to N. Driver Street
- Owen Street from Angier Avenue to Bruce Street
- S. Hoover Road from Boone Street to Ashe Street
- S. Elm Street from E. Ramseur Street to Walker Street
- Belmont Drive from Dodson Street to Mansfield Avenue
- S. Roxboro Street from Lakewood Avenue to South Street
- Massey Avenue from Fayetteville Street to Spaulding Street
- Formosa Avenue from Concord Street to Fayetteville Street
- Pickett Road from W. Cornwallis Road to Chapel Hill Road
- Racine Street from Martin Luther King Jr. Parkway to Mossdale Avenue
- Mossdale Avenue from Martin Luther King Jr. Parkway to Racine Street
- Red Oak Avenue from Atlantic Street to Fayetteville Street
- Red Oak Avenue from Crowell Street to Dead End
- Ed Cook Road from Ellis Road to So Hi Drive
- Surrey Road from Surrey Road to Dover Road
- Surrey Road from Dover Road to Exeter Way
- Cornwall Road from Dover Road to Surrey Road

List of Reclamite® Streets

- Carpenter Fletcher Road from Barbee Road to E. Woodcroft Parkway
- E. Woodcroft Parkway from Barbee Road to Carpenter Fletcher Road
- Granby Street from N. Alston Avenue to Drew Street
- Knollwood Drive from Cole Mill Road to Dead End
- East Oak Drive from Meadowbrook Avenue to Cole Mill Road
- North Pointe Drive from Guess Road to Broad Street
- Broad Street from Guess Road to Stadium Drive
- Guess Road from Broad Street to W. Club Boulevard
- Watts Street from W. Knox Street to W. Club Boulevard
- Hinson Drive from Da Vinci Street to Glenbrook Drive
- Fifteenth Street from W. Main Street to Hillsborough Road

Public Works Annual Need

Based on 2013 Pavement Condition Index (PCI) data the annual need is **\$8-10+ Million** for maintaining the City's street network.

The PCI Study will be updated in 2018 and the annual need adjusted further based on those findings.

Questions?